REMARKS

Claims 10-15 are in this application.

The invention claimed in this application is a simple and sensitive procedure to detect long-term brain plasticity altering activity in chemical agents. Animal models are prerequisite for detecting such activities. The fly model described in the instant patent application is an invention since it identifies measurement of one particular locomotor activity among many others which were tested as a means to detect long-term behavioral change inducing activities of chemical agents. The invention relates to a scheme of treating flies, where flies are grown for a particular period in the standard medium containing the test compound, and then shifted to normal medium for a given period. A specific locomotor activity measurement at the end would indicate presence or absence of plasticity causing activity in the test compound. This simple procedure is sensitive because it was developed by testing a wide variety of neuroactive drugs and drug candidates with different molecular mechanisms of action. As explained on page 12 of the specification, "the present procedure identifies locomotor activity changes associated with chronic exposure to drugs." Furthermore, it is explained on page 13 of the specification that "mechanisms underlying drug-induced neural plasticity is considered to represent general ways of neural systems adapting to physiological and behavioral stimuli" and that the present neural plasticity model is novel because "unlike the prior art, it is a chronic drug use induced neural plasticity model where the drug induced behavioral alteration persists throughout the life of the organism." This is not taught nor is it obvious from the prior art.

The claims have been rejected as being unpatentable over Sharma et al (US 6,541,193B2), in view of Wolf et al (J. Neuroscience 2002, 22, 11045-11044), and Faeldt et al (US

2004/0076583A1), and further in view of Saba et al. (US 2003/0219782A1). This is respectfully traversed.

As explained above, the claimed invention defines a method of screening of a chemical agent for long-term brain plasticity using wild type fruit fly *Drosophilia melanogaster*. There is no combination of the references that teach or suggest this invention. Sharma does not teach nor suggest screening for long-term brain plasticity. Sharma describes testing to determine recovery time from anesthesia and ethanol using plant materials as CNS stimulant/depressant. Sharma does not disclose testing the effect of a chemical agent *per se* as in the claimed invention where the chemical agent is tested in wild type flies that have not been exposed to a second chemical agent e.g. anesthesia or ethanol.

Saba et al. does not disclose a method for screening of a chemical agent for long-term brain plasticity. Saba discloses a method of identifying agents that specifically modulate sphingolipid metabolism using a mutant *Drosophilia melanogaster* that comprises a P-element transposon insertion in a gene encoding a component of a sphingolipid pathway that results in an altered level of at least one sphingolipid intermediate. This is completely different from the claimed invention.

Faeldt discloses the use of transgenic flies and wild type flies and measurement of locomotor activity, Faeldt does not disclose a method for screening of a chemical agent for long-term brain plasticity. Although in paragraph [0249] there may be chronic administration of the drug, Faeldt does not disclose nor suggest withdrawal of the drug for 30 days before determining whether there has been an effect on long-term brain plasticity.

Wolf et al do not teach effect on long-term brain plasticity after withdrawal of ethanol.

Contrary to what the Examiner states in paragraph 11 of the Office Action there is no combination of the references that makes the claims obvious. The Examiner refers to paragraphs

[0010], [0255] and [0256] of Faeldt as support for teaching that the locomotor activity may be examined at a plurality of times ...in flies contacted with a test agent after they have been removed from the drug containing media. Applicants contend that these paragraphs do not disclose removing the drug from the media as defined in the present claims and do not support all of the features of the claims.

Although Faeldt does disclose in paragraph [0249] that the animal be contacted with the compound during various stages of the life cycle or that the administration of the compound may be chronic, there is no disclosure or suggestion of exposing wild type fruit flies to a chemical agent for a period of time and then removing the drug and then determining whether there has been an effect on long-term brain plasticity. Again as stated on page 13 of the specification, "the present neural plasticity model is however novel because, unlike the prior art, it is a chronic drug use induced neural plasticity model where the drug induced behavioral alteration persists throughout the life of the organism."

Therefore, it is respectfully requested that the rejection be withdrawn.

It is submitted that the application is in condition for allowance and favorable consideration is respectfully requested.

Respectfully submitted,

JANET I. CORD
LADAS & PARRY LLP

26 WEST 61ST STREET
NEW YORK, NEW YORK 10023
REG. NO.33778 (212)708-1935